# **Higher Nationals**

# **Assignment Brief – BTEC (RQF)**

**Higher National Diploma in Computing**

|  |  |
| --- | --- |
| **Student Name /ID Number** | Aaron Mascarenhas |
| **Unit Number and Title** | **Unit 16 – Cloud Computing** |
| **Academic Year** | **2019 - 2020** |
| **Unit Assessor** | **Dr Sam Al-Jajjoka** |
| **Assignment Title** | **Cloud Computing Solutions\_ Assignment 1** |
| **Issue Date** | **20.12.2019** |
| **IV Name** | **Gurjeet Kohli** |
| **Final submission date** | **14.02.2020** |
| **Re-submission date (if required)** | **27.02.2020** |

**Plagiarism**

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand correct referencing practices. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

**Student Declaration**

|  |
| --- |
| **Student declaration**  I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.  Student signature: Aaron Date: 13/02/20 |

**Learning Outcomes and Assessment Criteria**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grading Criteria | Met | Grading Criteria | Met | Grading Criteria | Met |  |
| **LO1** | P1 |  | M1 |  | D1 |  |  |
| **LO1** | P2 |  |  |  |  |
|  |  |  |  |  |  |
| **LO2** | P3 |  | M2 |  |  |
| **LO2** | P4 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assessor Feedback:**  \*Please note that constructive and useful feedback should allow students to understand:   1. Strengths of performance 2. Limitations of performance 3. Any improvements needed in future assessments   Feedback should be against the learning outcomes and assessment criteria to help students understand how these inform the process of judging the overall grade.  Feedback should give full guidance to the students on how they have met the learning outcomes and assessment criteria. | | | | |
| **Grade:** | **Assessor Signature:** | | | **Date:** |
| **Resubmission Feedback:** | | | | |
| **Grade:** | | **Assessor Signature:** | **Date:** | | |

|  |
| --- |
| Submission Format: |
| The submission is in the form of two documents:  A technical report on ‘Design solution’ (saved in either a Microsoft® Word® or Google Doc format).  You are required to make use of headings, paragraphs, subsections and illustrations as appropriate, and all work must be supported with research and (where appropriate) referenced using the Harvard referencing system. |
| Unit Learning Outcomes: |
| LO1 Demonstrate an understanding of the fundamentals of Cloud Computing and its architectures.  LO2 Evaluate the deployment models, service models and technological drivers of Cloud Computing and validate their use. |
| Assignment Brief and Guidance: |
| ComC is a medium-sized electricity and gas company which owns some offshore assets in the north of the UK. It comprises around 200 employees with offices in the UK. It has an organisational structure based on the following functional divisions: Administration; Engineering; Support; Sale and Marketing.  ComC needs a data acquisition system to allow them to manage their offshore operations by monitoring data from their assets on a minute-by-minute basis.  They currently have the following:   1. A database server that logs and archives the offshore data into a database. 2. A tape drive to take daily backups of the database stored off-site. 3. An application server that hosts some data reporting and monitoring applications. 4. An email server to stores incoming mail for distribution to employees and sends out outgoing messages   The end users at ComC access these applications using a remote desktop client over the internet.  Due to the large volume of data and general company growth, ComC is considering to migrate part or all their business to the cloud.  You are appointed as the project manager to complete this project and you are expected to produce a technical report on the design solution.  The table of contents in your technical report should be as follows:   1. Brief description of the problem and the fundamental Concepts of cloud computing and the technologies are used (less than 400 words). 2. Architectural design (you should include architectural diagram and description). 3. Proposed solution and discuss why ComC should or should not migrate to Cloud (higher level solution description – around 500-1000 words). 4. What are the different cloud storages available for ComC in both Windows Azure and AWS. Then choose one you will use for ComC. In your discussion you should include the data and applications mentioned in the above scenario? 5. Detailed design:    1. Deployment of the cloud model (description of the model, and discussion on why that model should be chosen for ComC supported by a diagram).    2. Compare the Service models and discussion on why that model/s will be adequate for ComC. 6. a. It is said, “Cloud Computing can save money”. What is your view regarding Comc moving to Cloud   b. What are the downsides to ComC moving to Cloud hosting and the security challenges?   1. Critical discussion on data migration and the risk involved by exploring    1. common problems that are often addressed    2. the factors that are too often lead to failure and the tools chosen to realise a cloud computing solution    3. the planning and strategy steps to ensure a smooth migration process ( around 1500 words). 2. Summary.   \****Please access HN Global for additional resources support and reading for this unit. For further guidance and support on report writing please refer to the Study Skills Unit on HN Global. Link to www.highernationals.com*** |
|  |

|  |  |  |
| --- | --- | --- |
| **Learning Outcomes and Assessment Criteria** | | |
| Pass | Merit | Distinction |
| **LO1** Demonstrate an understanding of the fundamentals of Cloud Computing and its architectures | |  |
| **P1** Analyse the evolution and fundamental concepts of Cloud Computing.  **P2** Design an appropriate architectural Cloud Computing framework for a given scenario. | **M1** Discuss why an organisation should migrate to a Cloud Computing solution | **LO1 & 2**  **D1** Justify the tools chosen to realise a Cloud Computing solution. |
| **LO2** 16 | |
| **P3** Define an appropriate deployment model for a given scenario  **P4** Compare the service models for choosing an adequate model for a given scenario. | **M2** Demonstrate these deployment models with real world examples |

